



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Daniel I. Kerpelman, et al.

Serial No.: 09/470,554

Filed: December 22, 1999

For: INTEGRATED INTERACTIVE
SERVICE TO A PLURALITY OF
MEDICAL DIAGNOSTIC SYSTEMS

Group Art Unit: 3736 L. G.
Examiner: Morgan, Robert W.
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APPEAL BRIEF PURSUANT TO 37 C.F.R. §§ 1.191 AND 1.192

This Appeal Brief is being filed in furtherance to the Notice of Appeal mailed on May 21, 2003, and received by the Patent Office on May 27, 2003.

Applicant hereby requests a one (1) month extension in the statutory period for response to the Office Action from July 27, 2003 to August 27, 2003 in accordance with 37 C.F.R. § 1.136. The Commissioner is authorized to charge the requisite fee of \$110.00), and any additional fees which may be required, to Deposit Account No. 50-2402; Order No. 15-SV-5374/YOD (GEMS:0066).

1. REAL PARTY IN INTEREST

The invention is assigned to: GE Medical Technology Services, Inc., N25W23255
Paul Road, Pewaukee, Wisconsin 53072, as evidenced by an Assignment recorded at

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37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, Mail Stop Appeal Brief-Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below:

August 27, 2003

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Reel 010638, Frame 0081. The Assignee will be directly affected by the board's decision in the pending appeal.

2. RELATED APPEALS AND INTERFERENCES

Appellants are unaware of any other appeals or interferences related to this Appeal. The undersigned is Appellants' legal representative in this Appeal.

3. STATUS OF CLAIMS

Claims 1-32 are currently pending, and claims 1-32 are currently under final rejection and, thus, are the subject of this appeal.

4. STATUS OF AMENDMENTS

All amendments made to the claims have been entered. No amendments have been made following the Final Office Action mailed January 23, 2003.

5. SUMMARY OF THE INVENTION AND OF THE DISCLOSED EMBODIMENTS

The present invention relates generally to the field of medical diagnostic systems, and to servicing such systems through a remote service provider. *See Application, page 1, lines 6-7.* More particularly, the invention relates to a technique for facilitating servicing of a number of medical diagnostic systems in an interactive manner via network connections between the systems a remote service provider. *See Application, page 1, line 7-10.*

Medical diagnostic facilities, such as clinics, hospitals, outpatient institutions, and departments within these organizations, often include imaging systems. *See Application page 1, lines 14-17.* These imaging systems may include magnetic resonance imaging (MRI) systems, computed tomography (CT) systems, x-ray systems, ultrasound systems, positron emissions tomography (PET) systems, and so forth. *See Application, page 1, lines 19-24.* To maintain these imaging systems, a service provider must balance the

extremely demanding schedules of the hospital and relative complexity of the systems. *See Application*, page 1, lines 26-28. Frequently, a field service engineer visits a facility to review the state of operation of the system. *See Application*, page 1, lines 28-32. With the advent of networks, a service provider may remotely monitor the diagnostic systems to proactively analyze potential or existing problems. *See Application*, page 2, lines 5-14.

However, some of the imaging systems may not be equipped with connectivity to an external network. *See Application*, page 2, lines 16-20. Also, another drawback of remote servicing techniques for the medical diagnostic systems is limited coordination between the servicing, reporting, and accounting functions. *See Application*, page 2, lines 29-page 3, line 5. Despite the need for improved techniques for rendering service via a remote service connection to the medical diagnostic systems, a technique that is capable of providing improved service to medical diagnostic systems has not yet been developed prior to the present technique. *See Application*, page 3, lines 7-11.

Appellants provide a technique that utilizes service data requests, data exchanges, and the like, which are formulated either directly at individual diagnostic systems or at a control system linked to the diagnostic systems via an internal network. *See Application*, page 3, lines 15-27. The data requests may include requests for maintenance or servicing of the diagnostic systems, requests for information, requests for documentation, requests for examination of protocols, requests for software upgrades, and so forth. *See Application*, page 3, lines 28-31. To communicate these services requests between the medical diagnostic systems at the facility 12 and the remote service provider 14, a data communications control systems (DCCS) 40 is coupled to a network 20 and a network 50. *See Application*, Fig. 1; page 7, lines 14-26. The medical diagnostic systems include a magnetic resonance imaging (MRI) system 26, a computed tomography (CT) system 28, an x-ray system 30, and an ultrasound system 32, which are coupled to the network 20 and communicate with the DCCS 40 over this network 20. The remote service provider 14, which may include a principle site 56 with additional sites 58, exchanges data with

medical diagnostic systems through the DCCS 40 via the network 50. *See Application, page 8, lines 8-16; page 9, lines 24-30.*

The DCCS 40 is utilized to manage the exchange of service requests from medical diagnostic systems and one or more remote service providers. *See Application, Figs. 1-3; page 7, line 28-page 8, line 5.* The DCCS 40 includes peripheral devices and a software suite that enables the DCCS 40 to communicate with other systems, such as the diagnostic systems and remote service providers. *See Application, Fig. 2; page 10, lines 1-5.* Specifically, the DCCS 40 includes a central processing unit (CPU) that may be utilized to perform various functions, such as coordinating communications through networks or satellite links. *See Application, page 10, lines 5-14.* Also, the DCCS 40 includes a memory circuit 92 that stores both software routines executed by the DCCS 40, and data collected by the DCCS 40 for transmission to the remote service provider. *See Application, page 10, lines 16-30.* The application routines 110 or software suite 108 may include software for collecting data from the diagnostic systems, service software, and diagnostics and service routines. *See Application, page 11, line 10 to page 12, line 22.*

The process of transmitting data from medical diagnostic systems to the remote service provider 14 is explained in various routines in Figures 3-8. A first routine permits service and data requests to be formulated at the diagnostic facility for transmission to the remote service provider. *See Application, Fig. 4, page 14, line 20-page 16, line 5.* As shown in Fig. 5, a second routine permits the remote service provider to process the service request. *See Application, Fig. 5, page 16, line 8 to page 18, line 14.* In Figs. 6 and 7, an exemplary control logic may be used for receiving and processing transmissions from the remote service provider to the DCCS. *See Application, Figs. 6 and 7; page 18, line 16-page 19, line 16.* In addition, the acquisition of operational and parameter data from the medical diagnostic systems may be handled through an automatic polling or manual data request process. *See Application, Fig. 8; page 19, line 18-page 21, line 2.*

6. ISSUES

Issue No. 1:

Whether claims 1-13 and 15-32 are unpatentable under 35 U.S.C. § 103(a) as being rendered obvious by Wong et al. (U.S. Patent No. 6,260,021) in view of Ballantyne et al. (U.S. Patent No. 5,867,821).

Issue No. 2:

Whether claim 14 is unpatentable under 35 U.S.C. § 103(a) as being rendered obvious by Wong et al. (U.S. Patent No. 6,260,021) in view of Ballantyne et al. (U.S. Patent No. 5,867,821) and Official Notice.

7. GROUPING OF CLAIMS

In regard to Issue No. 1, independent claims 1, 16, 25 will stand or fall independently of one another. Dependent claims 2-13, 15, 17-24 and 26-32 will stand or fall with their respective independent claims.

In regard to Issue No. 2, dependent claim 14 will stand with independent claim 1, but will fall separately.

8. ARGUMENT

Issue No. 1:

The Examiner rejected claims 1-13 and 15-32 under 35 U.S.C. § 103(a) as being unpatentable over Wong et al. (U.S. Patent No. 6,260,021) in view of Ballantyne et al. (U.S. Patent No. 5,867,821). Appellants respectfully traverse this rejection.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (PTO Bd. App. 1979). Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention absent some teaching or suggestion supporting the

combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984). Accordingly, to establish a *prima facie* case, the Examiner must not only show that the combination includes *all* of the claimed elements, but also a convincing line of reason as to why one of ordinary skill in the art would have found the claimed invention to have been obvious in light of the teachings of the references. *Ex parte Clapp*, 227 U.S.P.Q. 972 (B.P.A.I. 1985). When prior art references require a selected combination to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gained from the invention itself, i.e., something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 5 U.S.P.Q.2d 1434 (Fed. Cir. 1988).

As discussed in detail below, the Examiner has improperly rejected pending claims 1-13 and 15-32 on the basis of the cited combination. Moreover, the Examiner has misapplied long-standing and binding legal precedence and principles in rejecting the claims under Section 103(a). Accordingly, Appellants respectfully request full and favorable consideration by the board, as Appellants strongly believe that claims 1-13 and 15-32 are currently in condition for allowance.

As a preliminary matter, it should be noted that each of the independent claims 1, 16, and 25 recites a "service request," a "data communications control system," or a "diagnostic system," which are terms described and defined throughout the present application. In an application, any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." *Multiform Desiccants Inc. v. Medzam Ltd.*, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). Under M.P.E.P. §2111.01, when the specification provides definitions for terms appearing in the claims, the specification should be used in interpreting claim language. *In re Vogel*, 164 USPQ 619, 622 (C.C.P.A. 1970).

Thus, the terms "service request," "data communications control system," and "diagnostic system" have a special meaning in the claims.

Furthermore, it should be further noted that independent claims 1, 16, and 25 are each directed to different aspects of the present techniques, and cannot simply be treated or dismissed on the same basis. Specifically, claim 1 recites a method for providing service data to a medical diagnostic system. The service request is generated from a designated diagnostic system and transmitted to a remote service provider over an external network via a data communications control system. The remote service provider receives and processes the service request, and then transmits a response to the request.

Claim 16 recites a method for servicing a plurality of medical diagnostic systems. In this claim, a service request is generated for a designated diagnostic system of a plurality of diagnostic systems. System data is accessed to address the service request, which is transmitted to a remote service provider via a data communications control system. The remote service provider processes the request and transmits a service response to the data communications control system.

Claim 25 recites a system for providing remote service to a plurality of network medical diagnostic systems. The system comprises a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility. Also, a service request generating circuit formulates a service request for addressing an operation of the designated diagnostic system. A data communications control system is coupled to the internal network and to an external network that is used to transmit service requests and receive responses, between the data communications control system and the remote service provider.

As each of the independent claims is directed to different aspects of the present invention, each of the independent claims 1, 16, and 25 are discussed below in greater detail.

A. Claim 1:

Claim 1 recites the following:

A method for providing service data to medical diagnostic systems, the method comprising the steps of:

- (a) generating a diagnostic system service request for a designated diagnostic system coupled to an internal network of a medical diagnostic facility;
- (b) transmitting the request to a remote service provider over an external network via a data communication control system coupled to a plurality of diagnostic systems over the internal network;
- (c) receiving and processing the request at the remote service provider;
- (d) transmitting a response from the remote service provider in response to the request.

The Examiner's rejection of claim 1 fails for at least two reasons. First, the combination fails to include all of the features recited in claim 1. For instance, the Wong et al. and Ballantyne et al. references, together, fail to disclose or teach "a service request," "a data communications control system," and "a data communications control system coupled to a plurality of the diagnostic systems over the internal network." Secondly, the Examiner has failed to provide support for a motivation or suggestion to combine the references.

i. A "service request" is not equivalent to a request for an image file.

The Wong, et al. and the Ballantyne et al. references do not disclose a "service request," as recited in claim 1. In the Office Action mailed on September 10, 2002, the Examiner appears to assert that medical image requests of the Wong et al. reference are equivalent to a "service request." In the Final Office Action mailed January 23, 2003, the Examiner again asserted that a medical image request in the

Wong et al. reference is equivalent to a “service request.” Appellants respectfully traverse this assertion.

In view of the precedents cited above, the term “service request,” which is described throughout the present application, has a specific meaning. The *service request* is described as a request for maintenance or servicing of the system, a request for information, a request for documentation, a request for examination of protocols, a request for software upgrades, and so forth. *See* Application, page 3, line 25-page 4, line 2. The *service request* is exchanged with a service system 62, which may provide reports or analysis of operational or parameter data. *See* Application, page 8, lines 10-24. Accordingly, a “service request,” as defined in the present application and claim, is not equivalent to a simple medical image request from a user. In fact, claim 1 recites that the “diagnostic system service request” is “for a designated diagnostic system.”

In contrast, the Wong et al. reference is not related to operational aspects or even servicing of a diagnostic system. In fact, the Wong et al. reference does not support the assertion that the service request is equivalent to a medical image request. In the Wong et al. reference, a system is used to resolve problems with a lack of uniform access to and interchange of associated medical image data. *See* Wong et al., col. 3, lines 17-23. To resolve the problems with non-uniform access, the Wong et al. reference teaches a three-tier information system architecture that allows clients at work stations 38, to receive medical *image* requests and display medical image objects to a user. *See* Wong et al., col. 3, line 61 to col. 4, line 15; col. 7, lines 23-27. The medical image requests are clearly only directed to medical image data. In fact, the medical image distribution system includes a medical *image* server 12 that communicates with the workstations 38 to request and view medical *image* information. *See* Wong et al., col. 8, lines 53-57. As such, the reference specifically describes medical image requests as requests for medical images, not as

a *service request*. Accordingly, the image request of the Wong et al. reference is not equivalent to a “service request,” as recited in claim 1.

The Ballantyne et al. reference fails to cure the deficiencies of the Wong et al. reference because it fails to teach or suggest a “service request.” In fact, the Ballantyne et al. reference describes an automated system for distribution and administration of medical services, entertainment services, and electronic health records. *See* Ballantyne et al., col. 1, lines 57-59. Indeed, the Ballantyne et al. reference even fails to disclose a diagnostic system, which is recited in the claims as *generating the service request*. Without any reference to a diagnostic system, the Ballantyne et al. reference simply cannot teach or suggest the *service request* because the *service request* is recited in claim 1 as being “for a designated diagnostic system.” Clearly, the Ballantyne et al. reference fails teach or suggest a “service request,” as recited in the present claim. Accordingly, the teachings of the Wong et al. and the Ballantyne et al. references fail to render a “service request” obvious.

ii. A “data communications control system” is not equivalent to the communications controller.

The Wong et al. and Ballantyne et al. references do not disclose a “data communications controller system,” as recited in claim 1. In the Office Action dated September 10, 2002, the Examiner admitted that the Wong et al. reference fails to disclose a data communications control system. Again, in the Final Office Action mailed January 23, 2003, the Examiner stated that the *data communications control system* is equivalent to the communication controller of the Ballantyne et al. reference. Appellants respectfully traverse this assertion.

Here again, the term “data communications control system” is described throughout the present application, and has a special meaning in the claims. In the application, the data communication control system (“DCCS”) 40 may be coupled to

a network 20 to receive and access data from a client, and a network 50 to exchange data with one or remote service or data providers, which may permit the DCCS 40 to optimize the use of available bandwidth. *See Application, Fig. 1, page 7, lines 13-17.* The DCCS 40, as shown in Fig. 2 and defined in the associated description, includes a central processing unit 86, a communications interface 88, a memory circuit 92, applications 100, peripheral devices 96, and a software suite 108. *See Application, page 10, line 1 to page 11, line 12.* The DCCS 40 also includes software for associating collected data from a diagnostic system, and may handle servicing needs of the diagnostic systems. *See Application, page 11, lines 14-26.* Further, additional applications or software routines may preferably be included in the DCCS 40, which may include diagnostic and service routines, interactive service routines, and may permit service requests to be generated for transmissions to the remote service provider in an interactive manner. *See Application, page 11, line 29 to page 12, line 22.*

As the Examiner admitted that the Wong et al. reference does not disclose the data communications control system, the recited feature must be found in the Ballantyne et al. reference for the rejection to stand. However, the Ballantyne et al. reference is directed to a method of distributing healthcare information, as noted above. The Board should not be influenced by the mere similarity in terminology used by Ballantyne et al. The reference's "communications controller" 26 is not comparable to the claimed DCCS either in the system or in its function. The communications controller 26 is responsible for network channel control, multiplexing and demultiplexing of data, signal modulation/demodulation, and data routing between the internal network and the hospital information network. *See Ballantyne et al., col. 5, lines 9-12.* As a result, the communications controller 26 is coupled to internal networks, not to an *external network and an internal network*, as recited in claim 1. *See Ballantyne et al., Fig. 2.* Clearly then, the communications controller 26 is not equivalent to the DCCS because the communications controller 26 is only coupled to internal hospital networks. Thus, the Ballantyne et al.

reference does not disclose or suggest the DCCS. Accordingly, the Wong et al. and Ballantyne et al. references, alone or in the proposed combination, fail to disclose or suggest a “data communications control system,” as recited in claim 1.

iii. A “diagnostic system” is not equivalent to a client workstation.

The Wong et al. and Ballantyne et al. references do not disclose or teach “a data communications control system coupled to a plurality of the diagnostic systems over the internal network.” In the Office Action mailed September 10, 2002, the Examiner asserted that the Wong et al. client workstations 38, which are connected to network links 36, are equivalent to the “plurality of diagnostic systems” that are recited in claim 1. Similarly, in the Final Office Action mailed on January 23, 2003, the Examiner reiterated that the client systems, which are the workstations 38, are equivalent to the *plurality of diagnostic systems*. Appellants respectfully traverse this assertion.

In the present Application, the term medical diagnostic system should be understood to include a wide variety of equipment, systems and subsystems, which produce useful images based on particular physics or modalities. *See Application, page 5, lines 24-32.* The medical diagnostic imaging systems are described as being magnetic resonance imaging (MRI) systems 26, a computed tomography (CT) system 28, and x-ray system 30, and an ultrasound system 32. *See Application, Fig. 1, page 6, lines 1-7.* Each of these imaging systems is configured to produce useful image data based upon particular physics of their respective modality. *See Application, page 6, lines 7-12.* In claim 1, the “plurality of diagnostic systems” is coupled to an *internal network* and a *DCCS*.

In contrast, the workstations 38 of the Wong et al. reference are not a *plurality of diagnostic systems* that are connected to an *internal network* and a *DCCS*. In the Wong et al. reference, the only connections to the network links 36 are the medical image server 12 and the workstations 38. *See Wong et al., Fig. 1.* The

workstations 38 are described as client computer systems that are used to view images and reports. *See* Wong et al., col. 8, lines 53-59. Indeed, the workstations 38 are simply user equipment that may range from thin clients to shared PC's, or Unix workstations. *See* Wong et al., col. 7, lines 23-28. As such, the workstations 38 of the Wong et al. reference are not equivalent to a *plurality of diagnostic systems*.

The Ballantyne et al. reference fails to cure the deficiencies of the Wong et al. reference with regard to a “a data communications control system coupled to a plurality of the diagnostic systems over the internal network.” As noted above, the Ballantyne et al. reference is directed to a method of distributing healthcare information. As such, the reference fails even to disclose a *diagnostic system*, which is clearly recited in the present claim. Because the Ballantyne et al. reference does not teach or disclose a *diagnostic system*, it cannot cure the deficiencies of the Wong et al. Accordingly, the Wong et al. and Ballantyne et al. references fail to disclose or suggest a “a data communications control system coupled to a plurality of the diagnostic systems over the internal network,” as recited in claim 1.

iv. The references provide no motivation or suggestion to combine.

Assuming, *arguendo*, such combination of Wong et al. and the Ballantyne et al. were even possible, or that this combination would include all the claimed elements, the Examiner has failed to point to a convincing suggestion or motivation that would lead one skilled in the art to modify the Wong et al. or Ballantyne et al. references as proposed. In the Office Action mailed September 10, 2002, the Examiner simply stated that:

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to include the communication controller as taught by Ballantyne et al. within the medical image distribution system as taught by Wong et al. with motivation [sic] of assisting the user with processing a service request, thereby providing a simpler and quicker way to access desired data over a network.

Further, in the Final Office Action mailed on January 23, 2003, the Examiner stated:

In addition, the Examiner respectfully submits that the motivation to combine the applied references is supported by motivation and/or an explanation based on the logic and scientific reasoning of one ordinarily skilled in the art at the time of the invention that support a holding of obviousness.

These statements do not provide a suggestion or motivation that would lead one skilled in the art to modify the Wong et al. reference or the Ballantyne et al. reference as proposed. The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 50 U.S.P.Q.2d 1161, 1171 (Fed. Cir. 1999). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Inter. 1993). Further, an obviousness rejection may not stand if there is no finding as to the principle or specific understanding within the knowledge of a skilled artisan that would have motivated the skilled artisan to make the claimed invention. *In re Kotzab*, 55 U.S.P.Q.2d 1313, 1318 (Fed. Cir. 2000). As a result, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 16 U.S.P.Q.2d 1430, 1432 (Fed. Cir. 1990).

In the present case, the Examiner's unsupported assertions do not meet the evidentiary standard required for combining references under 103 (a). The Examiner asserts that the logical reasoning of one skilled in the art at the time of the invention supports this combination. However, as noted above, the references fail to disclose

various features recited in the claims. Indeed, the Examiner has impermissibly relied on hindsight, using the teaching of the Appellants to find the suggestion to combine the alleged teachings of Wong et al. and Ballantyne et al.

In the Examiner's statements noted above, the Examiner asserted that the combination would be made to assist the user with processing a service request. However, as noted above, Wong et al. describe a three-tier system for providing uniformity in accessing stored images. *See* Wong et al., col. 3, lines 17-21; col. 7, lines 6-15.. Clients workstations 38, access images from the medical image server to ensure that all of the images are uniform. In following the Examiner's asserted construction, the communication controller 26 of Ballantyne et al. is inserted into the Wong et al. system to assist a user with processing an image request. However, in Wong et al., a single system, which is the medical image server 12, handles the image requests, and inserting the communication controller 26 of Ballantyne et al. *would not be desirable or even be beneficial to the system*. The addition of the Ballantyne et al. communication controller 26 does not address the problems set forth in the Wong et al. reference. In fact, the insertion of the Ballantyne et al. communication controller would be contrary to the specific understanding of a skilled artisan in resolving the problems with the uniformity of medical images. Likewise, as the Ballantyne et al. reference does not disclose or suggest *medical diagnostic systems*, and therefore fails to provide any support for the combination.

Furthermore, the mere fact that references *could theoretically* be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. As discussed above, the Wong et al. reference describes providing uniform access to medical images. Nothing in the reference provides support for the desirability of combining a communications controller 26 of the Ballantyne et al. reference into the imaging distribution system of the Wong et al. reference. In contrast, the Ballantyne et al. reference is directed to supporting a paperless hospital environment through shared services. The Ballantyne et al. reference

does not even disclose or suggest the use of *diagnostic systems*. Clearly, the references do not suggest the desirability of the combination. As the references do not support the combination and the Examiner has not pointed to any suggestion or motivation *in the references or in any other art of record* for the proposed combination, the Examiner's alleged combination is unsupported.

Accordingly, because the Examiner has failed to show that the cited references disclose *all* of the claimed elements, as well as a convincing line of reasoning as to why one of ordinary skill in the art would have combined the teachings of the cited references, the Examiner has failed to establish a *prima facie* case of obviousness. Therefore, independent claim 1 and its dependent claims are believed to be patentable over Wong et al. in view of Ballantyne et al. For these reasons, Appellants requests that the Board overturn the rejection and indicate the allowability of the claims.

B. Claim 16:

Claim 16 recites the following:

A method for servicing a plurality of medical diagnostic systems, the method comprising the steps of:

- (a) generating a service request for designated diagnostic system of a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility;
- (b) accessing system data useful in addressing the service request;
- (c) transmitting the service request to a remote service provider via a data communications control system;
- (d) processing the request at the remote service provider; and
- (e) transmitting a service response from the remote service provider to the data communications control system.

The Examiner's rejection of claim 16 fails for at least two reasons. First, the combination fails to include all of the features recited in claim 16. For instance, the

Wong et al. and Ballantyne et al. references fail to disclose or teach “a service request,” “a data communications control system,” and “a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility.” Secondly, the Examiner has failed to provide support for a motivation or suggestion to combine the references.

i. A “service request” is not equivalent to a request for an image file.

The Wong, et al. and the Ballantyne et al. references do not disclose a “service request,” as recited in claim 16. As noted above with regard to claim 1, in the Office Action mailed on September 10, 2002, the Examiner appears to assert that medical image requests of the Wong et al. reference are equivalent to a “service request.” Again, in the Final Office Action mailed January 23, 2003, the Examiner asserted that the medical image request in the Wong et al. reference is equivalent to a “service request.” Appellants respectfully traverse this assertion.

As discussed above, the term “service request” is defined within the present application. Specifically, in claim 16, the “service request” is for a “designated diagnostic system.” Conversely, the medical image request of the Wong et al. reference is not related to operational aspects or even servicing of a diagnostic system. In fact, the Wong et al. reference does not support the assertion that the service requests are equivalent to a medical image request. *See* Wong et al., col. 3, line 61 to col. 4, line 15; col. 7, lines 23-27. As the medical image requests are clearly only directed to requests for viewing medical image information, the medical image requests are not equivalent to a *service request*.

While the Ballantyne et al. reference was not relied on to disclose or suggest this recited feature, it is noted that the reference fails to cure the deficiencies of the Wong et al. reference. Again, as noted above, the Ballantyne et al. reference describes an automated system for distribution and administration of medical services, entertainment services, and electronic health records. *See* Ballantyne et al.,

col. 1, lines 57-59. However, the Ballantyne et al. reference does not disclose or suggest a *diagnostic system*, much less a *service request* that is generated by a diagnostic system. Because the reference does not even suggest a diagnostic system, the Ballantyne et al. reference cannot teach or suggest a “service request,” as recited in the present claim. Accordingly, the teachings of the Wong et al. and the Ballantyne et al. references fail to render a “service request” obvious.

ii. A “data communications control system” is not equivalent to the communications controller.

The Wong et al. and Ballantyne et al. references do not disclose a “data communications controller system,” as recited in claim 16. Again, as noted above with regard to claim 1, in the Office Action dated September 10, 2002, the Examiner admitted that the Wong et al. reference fails to disclose a *data communications control system*. In the Final Office Action mailed January 23, 2003, the Examiner reiterated that the “data communications control system” is equivalent to the communication controller of the Ballantyne et al. reference. Appellants respectfully traverse this assertion.

As discussed above, the term “data communications control system” is described throughout the present application, and has a special meaning in the claims. As the Examiner admitted that the *Wong et al.* reference does not disclose the data communications control system, the recited feature must be found in the Ballantyne et al. reference for the rejection to stand. However, the communications controller 26 of the Ballantyne et al. reference is only coupled to internal networks. *See Ballantyne et al., Fig. 2.* By only being coupled to internal networks, the communications controller 26 cannot be equivalent to the *DCCS*. As such, the Ballantyne et al. reference does not disclose or suggest “data communications control system,” as recited in claim 16. Accordingly, the Wong et al. and Ballantyne et al. references, alone or in the proposed combination, failed to disclose or suggest the claimed subject matter.

iii. A “diagnostic system” is not equivalent to a client workstation.

The Wong et al. and Ballantyne et al. references do not disclose or teach “a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility.” As noted above, in the Office Action mailed September 10, 2002, the Examiner asserted that the Wong et al. client workstations 38, which are connected to network links 36, are equivalent to the “plurality of diagnostic systems” that are recited in claim 16. Also, in the Final Office Action mailed on January 23, 2003, the Examiner reasserted that the client systems, which are the workstations 38, are equivalent to the *plurality of diagnostic systems*. Appellants respectfully traverse this assertion.

As discussed above, the term “diagnostic systems” is described throughout the present application, and as such has a special meaning in the claims. Specifically, in claim 16, the “diagnostic systems” are coupled to an “internal network.” In contrast, the workstations 38 of the Wong et al. reference are not a *plurality of diagnostic systems* that are connected to an *internal network*. In the Wong et al. reference, the workstations 38 are described as client computer systems that are used to view images and reports. *See* Wong et al., col. 8, lines 53-59. As such, the workstations 38 of the Wong et al. reference are not equivalent to a plurality of diagnostic systems. Accordingly, the Wong et al. reference does not disclose or teach “a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility.”

The Ballantyne et al. reference fails to cure the deficiencies of the Wong et al. reference with regard to a “plurality of diagnostic systems.” As noted above, the Ballantyne et al. reference fails even to disclose a *diagnostic system*. Because the Ballantyne et al. reference does not teach or disclose a *diagnostic system*, it cannot cure the deficiencies of the Wong et al. Accordingly, the Wong et al. and Ballantyne et al. references fail to disclose or suggest “a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility,” as recited in claim 16.

iv. The references provide no motivation or suggestion to combine.

With regard to the lack of motivation or suggestion to combine the references, the Examiner does not suggest, nor do the cited references support a motivation to make the suggested combination. As discussed above, the Examiner's unsupported assertions do not meet the evidentiary standard required for combining references under Section 103. Furthermore, as the references do not suggest the desirability of the combination and the Examiner has not pointed to any suggestion or motivation *in the references or in any other art of record* for the proposed combination, the Examiner's alleged combination is unsupported. Indeed, the Examiner has impermissibly relied on hindsight, using the teachings of Appellants to find the suggestion to combine the alleged teachings of Wong et al. and Ballantyne et al.

Accordingly, because the Examiner has failed to show that the cited references disclose *all* of the claimed elements, as well as a convincing line of reasoning as to why one of ordinary skill in the art would have found the claimed invention obvious in light of the cited reference, the Examiner has failed to establish a *prima facie* case of obviousness. Therefore, independent claim 16 and the dependent claims are believed to be patentable over Wong et al. in view of Ballantyne et al. For these reasons, Appellants requests that the Board overturn the rejection and indicate the allowability of the claims.

C. Claim 25:

Claim 25 recites the following:

A system for providing remote service to a plurality of networked medical diagnostic systems, the system comprising:

a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility, including designated diagnostic system;

a service request generating circuit for formulating a service request for addressing an operation of the designated diagnostic system; and

a data communications control system coupled to the internal network and to an external network for transmitting

the service request to a remote service provider and for receiving a response to the request from the remote service provider.

The Examiner's rejection of claim 25 fails for at least two reasons. First, the combination fails to include all of the features recited in claim 25. For instance, the Wong et al. and Ballantyne et al. references fail to disclose or teach "a service request," "a data communications control system," and "a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility." Secondly, the Examiner has failed to provide support for a motivation or suggestion to combine the references.

i. A "service request" is not equivalent to a request for an image file.

The Wong, et al. and the Ballantyne et al. references do not disclose a "service request," as recited in claim 25. As noted above with regard to claim 1, in the Office Action mailed on September 10, 2002, the Examiner appears to assert that medical image requests of the Wong et al. reference are equivalent to a "service request." As noted above, in the Final Office Action mailed January 23, 2003, the Examiner again asserted that the medical image request in the Wong et al. reference is equivalent to a "service request." Appellants respectfully traverse this assertion.

As discussed above, the term "service request" is defined within the present Application. Specifically, in claim 25, the "service request" is for "addressing an operation of the designated diagnostic system." Conversely, the medical image request of the Wong et al. reference is not related to an operation, much less operational aspects of a diagnostic system. In fact, the Wong et al. reference does not support the assertion that the service request is equivalent to a medical image request, because the medical image request clearly relates only to medical images. See Wong et al., col. 3, line 61 to col. 4, line 15; col. 7, lines 23-27. Because the medical image request is clearly directed to a request for viewing medical image information, the medical image request is not equivalent to a *service request*.

While the Ballantyne et al. reference was not relied on to disclose or suggest this recited feature, it is noted here again that the reference fails to cure the deficiencies of the Wong et al. reference. As noted previously, the Ballantyne et al. reference does not disclose or suggest a diagnostic system, much less a *service request* that is relates to the *operation* of a diagnostic system. Because the reference does not even suggest a diagnostic system, the Ballantyne et al. reference fails teach or suggest a “service request,” as recited in the present claim. Accordingly, the teachings of the Wong et al. and the Ballantyne et al. references fail to render a “service request” obvious.

ii. A “data communications control system” is not equivalent to the communications controller.

The Wong et al. and Ballantyne et al. references do not disclose a “data communications controller system,” as recited in claim 25. Again, as noted above with regard to claim 1, in the Office Action dated September 10, 2002, the Examiner admitted that the Wong et al. reference fails to disclose a “data communications control system.” Also, in the Final Office Action mailed January 23, 2003, the Examiner reiterated that the *data communications control system* is equivalent to the communication controller of the Ballantyne et al. reference. Appellants respectfully traverse this assertion.

As discussed above, the term “data communications control system” is described throughout the present application, and as such has a special meaning in the claims. Specifically, in claim 25, the DCCS is coupled to the *internal network* and the *external network*. Because the Examiner admitted that the *Wong et al.* reference does not disclose the data communications control system, the recited feature must be found in the Ballantyne et al. reference for the rejection to stand. However, the communications controller 26 of the Ballantyne et al. reference is only coupled to internal networks, not to an *external network and an internal network*. See Ballantyne et al., Fig. 2. As such, the communications controller 26 is not

equivalent to the *DCCS*. Thus, the Ballantyne et al. reference does not disclose or suggest “data communications control system,” as recited in claim 25. Accordingly, the Wong et al. and Ballantyne et al. references, alone or in the proposed combination, failed to disclose or suggest the claimed subject matter.

iii. A “medical diagnostic system” is not equivalent to client workstations.

The Wong et al. and Ballantyne et al. references do not disclose or teach a “a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility.” In the Office Action mailed September 10, 2002, the Examiner asserted that the Wong et al. client workstations 38, which are connected to network links 36, are equivalent to the “plurality of medical diagnostic systems” that are recited in claim 25. Again, in the Final Office Action mailed on January 23, 2003, the Examiner reasserted that the client systems, which are the workstations 38, are equivalent to the *plurality of medical diagnostic systems*. Appellants respectfully traverse this assertion.

As discussed above, the term “diagnostic systems” is described throughout the present application, and as such has a special meaning in the claims. Specifically, in claim 25, the “medical diagnostic systems” are coupled to an “internal network.” In contrast, the workstations 38 of the Wong et al. reference are described as client computer systems that are used to view images and reports. *See* Wong et al., col. 8, lines 53-59. As such, the workstations 38 of the Wong et al. reference are not equivalent to a *plurality of medical diagnostic systems*. Accordingly, the Wong et al. reference does not disclose or teach “a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility.”

While the Examiner does not rely on the Ballantyne et al. reference for this recited feature, here again, it is noted that the reference fails to cure the deficiencies

of the Wong et al. reference. As noted previously, the Ballantyne et al. reference fails to disclose a *medical diagnostic system*. Because the Ballantyne et al. reference does not teach or disclose a *medical diagnostic system*, it cannot cure the deficiencies of the Wong et al. Accordingly, the Wong et al. and Ballantyne et al. references fail to disclose or suggest “a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility,” as recited in claim 25.

iv. The references provide no motivation or suggestion to combine.

With regard to the lack of motivation or suggestion to combine the references, the Examiner does not suggest, nor do the cited references support a motivation to make the suggested combination. As discussed above, the Examiner’s unsupported assertions do not meet the evidentiary standard required for combining references under Section 103. Furthermore, as the references do not suggest the desirability of the combination and the Examiner has not pointed to any suggestion or motivation *in the references or in any other art of record* for the proposed combination, the Examiner’s alleged combination is unsupported. Indeed, the Examiner has impermissibly relied on hindsight, using the teachings of Appellants to find the suggestion to combine the alleged teachings of Wong et al. and Ballantyne et al.

Accordingly, because the Examiner has failed to show that the cited references disclose *all* of the claimed elements, as well as a convincing line of reasoning as to why one of ordinary skill in the art would have combined their teachings, the Examiner has failed to establish a *prima facie* case of obviousness. Therefore, independent claim 25 and the dependent claims are believed to be patentable over Wong et al. in view of Ballantyne et al. For these reasons, Appellants requests that the Board overturn the rejection and indicate the allowability of the claims.

Issue No. 2:

The Examiner rejected claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Wong et al. (U.S. Patent No. 6,260,021) in view of Ballantyne et al. (U.S. Patent No. 5,867,821) and Official Notice. To provide support for the Official Notice, the Examiner relied on Tignor et al. (U.S. Patent No. 4,982,325). The Appellants respectfully traverse Examiner's rejection.

Appellants believe claim 14 is patentable based upon both its dependence on patentable claim 1, and its recited subject matter. In the rejection, the Examiner relied upon the Tignor et al. reference to provide support for the Official Notice that "placing the service request in a queue, and transmitting the service request in accordance with an established schedule." As discussed above, the Wong et al. and the Ballantyne et al. references fail to disclose the all of the recited features of claim 1. The Tignor et al. reference is simply used to provide support for Official Notice taken by the Examiner. The reference is actually directed to a processor module that is used to interface with a database. Tignor et al., col. 3, lines 30-47. As the Tignor et al. reference is unrelated to medical imaging, the reference fails to cure the deficiencies of the Wong et al. and the Ballantyne et al. references discussed above. Accordingly, Appellants respectfully request the Board overturn the rejection and indicate the allowability of claim 14.

CONCLUSION

In view of the above remarks, Appellants respectfully submit that the Examiner has provided no supportable position or evidence that claims 1-32 are rendered obvious in view of the prior art. Accordingly, Appellants respectfully request that the Board find claims 1-32 patentable over the prior art of record and reverse all outstanding rejections.

Fees and General Authorization for Extensions of Time

The Commissioner is hereby authorized to charge the fee for filing of the present Brief under 37 C.F.R. 1.17(c) in the amount of \$320.00 to Deposit Account No. 50-2402; Order No. 15-SV-5374/YOD (GEMS:0066).

In accordance with 37 C.F.R. § 1.136, Appellants hereby provide a general authorization to treat this and any future reply requiring an extension of time as incorporating a request therefor. Furthermore, Appellants authorize the Commissioner to charge the appropriate fee for any extension of time to Deposit Account No. 50-2402; Order No. 15-SV-5374/YOD (GEMS:0066).

Respectfully submitted,

Date: 8/27/2003

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Patrick S. Yoder
Reg. No. 37,479
FLETCHER YODER
P.O. Box 692289
Houston, TX 77269-2289
(281) 970-4545

9. APPENDIX OF CLAIMS ON APPEAL

1. A method for providing service data to medical diagnostic systems, the method comprising the steps of:

- (a) generating a diagnostic system service request for a designated diagnostic system coupled to an internal network of a medical diagnostic facility;
- (b) transmitting the request to a remote service provider over an external network via a data communication control system coupled to a plurality of diagnostic systems over the internal network;
- (c) receiving and processing the request at the remote service provider;
- (d) transmitting a response from the remote service provider in response to the request.

2. The method of claim 1, wherein the response is transmitted to the data communications control system.

3. The method of claim 1, comprising the further step of transmitting the response to the designated diagnostic system via the internal network.

4. The method of claim 1, wherein the diagnostic system service request is generated at the designated diagnostic system.

5. The method of claim 4, wherein the diagnostic system service request is generated via an interface routine provided on the data communications control system.

6. The method of claim 5, wherein the interface routine includes a web browser application.

7. The method of claim 1, wherein the service request is generated at the data communications control system.

8. The method of claim 1, wherein the service request includes at least data identifying the designated diagnostic system.

9. The method of claim 8, comprising the further step of accessing operational data from the designated diagnostic system in response to the service request.

10. The method of claim 1, wherein the service request is transmitted to the remote service provider via a first data communications medium and the response is transmitted to the medical diagnostic facility via a second data communications medium different from the first medium.

11. The method of claim 10, wherein the first medium includes a wide area network link.

12. The method of claim 10, wherein the second medium includes a satellite link.

13. The method of claim 10, wherein the response is transmitted directly to a diagnostic system.

14. The method of claim 1, comprising the further steps of placing the service request in a queue, and transmitting the service request in accordance with an established schedule.

15. The method of claim 1, wherein the response includes service data for addressing an operational problem of the designated diagnostic system, and wherein the method includes storing the service data for download to the designated diagnostic system.

16. A method for servicing a plurality of medical diagnostic systems, the method comprising the steps of:

- (a) generating a service request for designated diagnostic system of a plurality of diagnostic systems coupled to an internal network of a medical diagnostic facility;
- (b) accessing system data useful in addressing the service request;
- (c) transmitting the service request to a remote service provider via a data communications control system;
- (d) processing the request at the remote service provider; and
- (e) transmitting a service response from the remote service provider to the data communications control system.

17. The method of claim 16, wherein the service request is generated at the designated diagnostic system.

18. The method of claim 16, wherein the system data is stored at the diagnostic system.

19. The method of claim 18, wherein the system data is accessed by the data communications control system and transmitted to the remote service provider.

20. The method of claim 19, wherein the system data is transmitted with the service request.

21. The method of claim 19, wherein the system data is transmitted after the service request and in response to a prompt from the remote service provider.

22. The method of claim 16, wherein the service request and the response are transmitted via different data communications media.

23. The method of claim 16, comprising the further step of forwarding the response to the designated diagnostic system via the internal network.

24. The method of claim 16, wherein the diagnostic systems include at least two imaging systems of different modalities.

25. A system for providing remote service to a plurality of networked medical diagnostic systems, the system comprising:

a plurality of medical diagnostic systems coupled to an internal network of a medical diagnostic facility, including designated diagnostic system;

a service request generating circuit for formulating a service request for addressing an operation of the designated diagnostic system; and

a data communications control system coupled to the internal network and to an external network for transmitting the service request to a remote service provider and for receiving a response to the request from the remote service provider.

26. The system of claim 25, including a remote service provider, the remote service provider receiving the service request, generating the response, and transmitting the response to the data communications control system.

27. The system of claim 26, wherein the control system includes an external network interface for receiving the response via at least two different data communications media.

28. The system of claim 25, wherein the service request is generated at the designated diagnostic system.

29. The system of claim 25, wherein the diagnostic systems include at least two imaging systems of different modalities, and wherein the designated diagnostic system is selected from the at least two imaging systems.

30. The system of claim 25, wherein the operational data useful in responding to the service request is stored at the designated diagnostic system.

31. The system of claim 30, wherein the data communications control system accesses the operational data from the designated diagnostic system via the internal network.
32. The system of claim 25, wherein the data communications control system includes an operator interface, and wherein the service request is generated via the operator interface.